25X1

[redacted]

October 5, 1970

Attention: John C.

Dear John:

Enclosed please find three copies of Technical Progress Report No. 5, [redacted]2201201-TPR-5.

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Sincerely,

[redacted]

Senior Staff Scientist

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[redacted]

October 5, 1970

To: John C.

From: [redacted] 25X1

Subject: Technical Progress Report No. 5 [redacted] 25X1

Reference: [redacted]2201201-TPR-5 25X1

This is the fifth monthly technical progress report on 25X1
Contract No. [redacted] covering the program effort from 20 August to 19 September 1970.

During this period we have defined a number of optical operations that will be performed to demonstrate general areas of optical capability, using the macro-optical system. We have also emphasized the program at the customers lab facility on the low-contrast image problem. Relative to the micro-optical processing system we have generated high frequency test targets on operational type ON and DP film, as well as initiation of continuous tone targets for evaluation of several micro-optical manipulation techniques. The techniques being applied at the customer facility in macro-optical processing, and at the [redacted] lab in micro-optical processing, are complementary efforts as planned at conception of this program. 25X1

During the course of this month we have defined for the customer several pertinent applications of the optical image manipulation system. The primary applications include manipulation

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of linearly smeared imagery, defocused imagery, double imaging where the effect results from defocused annular aperture, and low contrast imagery. The first three applications require optical filters that contain phase and amplitude components. Because best quality manipulation of continuous tone imagery is obtained with an in-line optical system we are fabricating filters by function generation techniques suited to that system. Some initial filters have been generated and several preliminary results are available.

During the coming month a demonstration of the program status is planned for October 16. We will be continuing to develop the application of optical image manipulation to the above functions with the intent of presenting results at a briefing presently scheduled for December.

Attached to this report are carbon copies of the [redacted] 25X1 lab notebook contents for the program performed at the customers laboratory facility. Pictorial results of several preliminary operations are available at that lab. The program direction is written up in Program Plans that are delivered to the customer after each visit, the most recent occuring the week of 21 Sept. 1970.

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Senior Staff Scientist

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attachment